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09/247,219	02/10/1999	PEGGY M. TOMASULA	862.004US1	7387

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USDA-ARS-OFFICE OF TECHNOLOGY TRANSFER  
NATIONAL CTR FOR AGRICULTURAL UTILIZATION RESEARCH  
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PEORIA, IL 61604

EXAMINER

CORBIN, ARTHUR L

ART UNIT	PAPER NUMBER
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1761

27

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.



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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Paper No. 27

Application Number: 09/247,219  
Filing Date: February 10, 1999  
Appellant(s): TOMASULA, PEGGY M.

**MAILED**

JUN 6 - 2003

**GROUP 1700**

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For Appellant

**EXAMINER'S ANSWER**

This is in response to the brief on appeal filed January 2, 2002 and the Supplemental Brief filed July 22, 2002.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences, which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

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This appeal involves claims 2, 4-6, 9, 11-13 and 15-19.

Claims 1, 3, 7, 8, 10 and 14 have been canceled.

**(4) Status of Amendments After Final**

The amendment after final rejection filed on June 6, 2002 has not been entered.

**(5) Summary of Invention**

The summary of invention contained in the brief is correct.

**(6) Issues**

The appellant's statement of the issues in the brief is correct.

**(7) Grouping of Claims**

The rejection of claims 2, 4-6, 9, 11-13 and 15-19 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

**(8) Claims Appealed**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) Prior Art of Record**

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

5,432,265

Tomasula

7-1995

5,006,349

Dahlstrom et al

4-1991

**(10) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 2, 4-6, 9, 11-13 and 15-19 stand rejected under 35 USC 103 as being unpatentable over Tomasula in view of Dahlstrom et al. Tomasula is described in detail in lines 3-28 of paragraph No. 2, Paper No. 5. Additionally, Tomasula discloses operating pressures of 400-800 psi (col. 4, line 28) and operating temperatures of 35 to 60° C (col. 3, lines 34-36). Tomasula also indicates that a pH of 4.3 to 5.3 is optimal for precipitating casein from milk. Lastly, and of greatest significance, is the disclosure in Tomasula that the process described therein is applicable to precipitate proteins which are known to precipitate in acidic media (col. 4, lines 29-38). It would have been obvious to substitute soymilk for part or all of the dairy milk starting material in Tomasula since it is known to precipitate or coagulate protein from dairy milk or soymilk or a mixture thereof by coagulating the milk with a food grade acid, e.g. carbonic acid, as evidenced by Dahlstrom et al (col. 3, lines 23-35 and 49-55 and col. 8, lines 39-45), and since Tomasula's process can be used to precipitate proteins which are known to precipitate in acid. Thus, a soy protein product will result when soy milk is treated in accordance with Tomasula's process. Finding the optimum initial and final protein concentrations and the optimum holding time would require nothing more than routine experimentation by one reasonably skilled in this art. However, protein concentration of precipitated protein is naturally greater than protein concentration of a solution containing a protein source since the protein precipitate is mostly free of water.

**(11) Response to Argument**

Appellant initially maintains that Tomasula's only reference to vegetable material is for sterilization of vegetable pieces. However, vegetable pieces are not the vegetable protein which, it is suggested, would have been obvious to treat with pressurized carbon dioxide to precipitate the protein. In fact, appellant admits that Tomasula's apparatus can be used to treat vegetable protein "in accordance with [appellant's] invention" (page 5, lines 9-11 of Supplemental Appeal Brief).

Appellant's reference to case ~~in~~ proteins in Tomasula's process (page 5 of Supplemental Appeal Brief) is not persuasive since Tomasula also discloses that any ~~precipitable~~ <sup>precipitable</sup> material will work in her process (col. 2, lines 52-53). Of course, appellant's process does not dissolve calcium phosphate bonds, as appellant argues, since appellant's process is limited to treatment of vegetable protein. In fact, appellant does not refute the fact that Tomasula's CO<sub>2</sub> process could be used to precipitate other proteins (page 6, lines 16-19 of Supplemental Appeal Brief). However, appellant does contend that Tomasula does not disclose that the original size of vegetable proteins can be maintained upon being precipitated. Appellant does this by depressurizing the vegetable protein solution (claim 15, step c). Tomasula (col. 3, line 15) also depressurizes, at the exit line of a high pressure pump, the protein solution being treated with carbon dioxide. Thus, appellant's result of maintaining particle size would also be achieved by Tomasula, which performs the same manipulative steps as claimed by appellant in claim 15, step c).

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Although vegetable proteins are different from milk proteins, as appellant concludes (page 7 of Supplement<sup>a1</sup> Brief), this conclusion does not negate the motivation of substituting vegetable protein for milk protein in a process used to precipitate proteins, as suggested by Dahlstrom<sup>et al</sup> and discussed in the aforesaid rejection of appellant's claims. Dahlstrom<sup>et al</sup> is especially analogous to and properly combinable with Tomasula since, as appellant admits, Tomasula's CO<sub>2</sub> process can be used to precipitate proteins other than milk proteins, i.e. proteins which are known to precipitate in acid, such as vegetable proteins.

^ Lastly, the fact that Dahstrom<sup>et al</sup> ultrasonic treatment operates completely differently from Tomasula's system is irrelevant since Dahlstrom<sup>et al</sup> suggests coagulating dairy milk or soy milk with a food grade acid, of which carbonic acid, formed from carbon dioxide, is one example. The ultrasonic treatment in Dahlstrom<sup>et al</sup> is also not precluded by appellant's claims and is only used to get uniform mixing of materials.


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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

dh  
April 24, 2003

Conferees

  
SPE, 1761

  
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PRIMARY EXAMINER

5-29-03

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Any inquiry concerning this communication from the examiner should be directed to Arthur Corbin whose telephone number is (703) 308-3850. The examiner can generally be reached on Tuesday--Friday from 10 a.m. to 7:30 p.m. and on alternate Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (703) 308-3959. The fax phone numbers for the organization where this application is assigned are (703) 872-9310 for regular communications and (703) 305-7115 for After Final communications.

Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is (703) 308-0661.

A. Corbin/dh  
April 23, 2003